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Empirical Evidence of Multi-Facets of Delinquency in Pakistan: Revised Self-Reported Delinquency Scale

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Juvenile delinquency is a major societal issue of Pakistan, but measuring it through self-reported indigenously developed questionnaire is limited to a few progresses like Self-Reported Delinquency Scale (SRDS; Naqvi & Kamal, 2008). The purpose of the present study was to explore factor structure of SRDS through Exploratory Factor Analysis (EFA) and to address multi-facets of delinquency by modifying SRDS. Cross-sectional research design was used. Data were collected through purposive sampling from 508 respondents which included 232 juvenile delinquents and 276 students from Bahawalpur and Faisalabad. Study was aimed to explore and establish dimensionality, reliability, convergent, and discriminant validities along with usefulness of the Revised Self-Reported Delinquency Scale (R-SRDS). Findings of the study reported emergence of six internally-consistent factors including: (a) risk taking, (b) sex related, (c) stealing related, (d) police encountering, (e) drugs related, and (f) attention seeking delinquent tendencies. Convergent validity of these subscales was established through positive association of R-SRDS with Short version of Physical and Verbal Aggression Scale (Caprara & Pastorelli, 1993), and Lying Scale of Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1976). Discriminant validity was established by inverse relationship of R-SRDS with Prosocial Behavior Scale (Eisenerg, Eggum, & Di-Giunta, 2010) and Positivity Scale (Caprara et al., 2012). R-SRDS not only discriminated between juvenile delinquents and students, but also discriminated between delinquents committing different types of crimes, thus, providing more comprehensive picture of R-SDS measuring different levels of delinquent tendencies in Pakistan.

Keywords. Juvenile delinquency, delinquent tendencies, risk taking, attention seeking, factor structure

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Juvenile delinquency is a phenomenon which needs priority based attention as it is not only causing disturbance in the society, but also exploiting the energy of youngsters. Juvenile delinquency can be described as law violating behavior (Thornberry & Krohn, 2000) or deviant act of the child which would have fallen under the category of crime if he was an adult (Connor, 2004). According to Juvenile Justice System Ordinance (2000) of Pakistan the "child" is defined as an individual who is less than eighteen years of age. This age range falls under the developmental period of adolescence, which itself is characterized by mood swings, immature behaviors, and rebellious attitude, but such attributes are considered as a normal part of growing up (Santrock, 2013). Rrepetitive and intensive deviant acts could lead to consequences like societal rejection and isolation in the form of juvenile arrest and incarceration (Siegel & Welsh, 2014).

More importantly, the concept of delinquency is harder to measure as many societal factors play an important role in criminal proceedings and other legal systems of Pakistan (Fasihuddin, 2013). Initially, delinquency was measured through the data available in official records, but it was not only less informative, but is also sometimes misleading (Thornberry & Krohn, 2000). This data is generated by official law enforcement bodies and could be biased due to factors like political pressure and personal grudge (Shah, 2011). Secondly, all the crimes are usually not reported, which could explain drop-in rate of crime in statistical figures whereas there is day-by-day increase in deviant behaviors (Gillani, Rehman, & Gill, 2009). Thirdly, not all information regarding crime is often available as facts do get molded by either the officials or witnesses either intentionally or unintentionally (Talpur, Pathan, & Shah, 2012). To handle such issues, self-reported instruments were developed to measure delinquency in the beginning of 21st century as they provide comprehensive, valid, and reliable information about juvenile delinquency from different aspects like prevalence, etiology, or even about juvenile justice system (Naqvi & Kamal, 2008; Palmer & Hollin, 2001; Thornberry, Huizinga, & Loeber, 2004).

Situation of juvenile delinquency in Pakistan is even more difficult to analyze as no information regarding juvenile delinquents is available or published either due to negligence or for security issues (Fasihuddin, 2009, 2013; Malik & Shirazi, 2010). So, one has to rely on data provided by non government resources till 2014. Society for the Protection of the Rights of the Child (SPARC, 2012) reported that by the end of 2012, total number of juvenile delinquents in Pakistan was 1,398 which included 1,219 under-trial and 179 convicted juveniles imprisoned either in Brostal Institutions and Juvenile Jails

(BIJJ) or other prisons of Pakistan. At provincial level, they were distributed as 815 juvenile delinquents are incarcerated in Punjab, 303 in Sindh, 233 in Khyber Pakhtunkhwa (KPK), and 37 in Balochistan. Thus, juvenile delinquency is reported to be highly prevalent in Punjab than in other provinces (SPARC, 2012; Talpur et al., 2012) may be because of more population. According to SPARC (2012), juvenile delinquents of Punjab were further categorized into 716 under-trial juveniles (including 715 male & one female) and 98 convicted juveniles (including 97 male & one female).

Juvenile delinquency is a complicated and complex phenomenon as it involves malfunctioning of multiple factors which could be on the involving person, society, and government (Fasihuddin, 2013; Siegel & Welsh, 2014). Crime related situations prevailing in Pakistan have also made it difficult to identify whether these incarcerated juveniles have actually committed crime or they are merely a victim of maladaptive behaviors prevailing in the society (Shah, 2011). All such circumstances have made measuring delinquency even more important rather than just taking incarceration as a measure of delinquency. Studies conducted in Pakistan on the sample of juvenile delinquents used incarceration as a measure of delinquency (Malik & Shirazi, 2010; Sattar & Rafique, 2011).

Different scales have been developed internationally to measure delinquency, but all these scales were either long or hard to understand and were specifically related to culture other than Pakistan (Elliott, Huizenga, & Ageton, 1985; Reavy, Stein, Paiva, Quina, & Rossi, 2012; Reavy, Stein, Quina, & Paiva, 2014). According to Gardner (1999), antisocial or deviant behavior is cultural specific as it is determined by the norms existing in any particular society or culture. Every locality, thus, has its own definition of acceptable and unacceptable behaviors. Similarly, according to Ozanne, Hill, and Wright (1998), juvenile delinquency is considered as a behavioral expression to show resistance towards prevailing culture. In order to measure juvenile delinquency in Pakistan, a behavior checklist was used by Rafail and Haque (1999). This 37 item checklist did not address sex-related deviant behaviors, used absolute response format such as yes or no; and thus, can only identify the presence of deviant behavior. In order to address this issue 27 item SRDS was developed by Naqvi and Kamal (2008) to measure delinquent tendencies among adolescent laborers. SRDS sampled deviant or delinquent acts better as it identified a series of deviant behaviors like stealing, drug abuse, lying, disobedience, police encounter, violence related, cheating, gambling, and sex related delinquency. SRDS measured frequency of committing delinquent behavior to check the intensity of involvement

in deviant acts. Reliability of SRDS was reported to be .94 (Naqvi & Kamal, 2008, 2013). No research was found with respect to measuring delinquent tendencies among juvenile delinquents even SRDS is used only on the sample of laborers (Naqvi & Kamal, 2008, 2013) and orphans (Yasin & Iqbal, 2013).

One limitation of SRDS was that it was developed on the sample of laborers. These laborers were not criminal offenders due to which SRDS might have exhibited unidimensional structure, whereas it is advocated that delinquency is an umbrella term, but a multifaceted construct which include multiple factor structure for different delinquent acts like drugs taking and violence (Noyori-Corbett & Moon, 2010; Reavy et al., 2012; Verschuere, Candel, Van-Reenen, & Korebrits, 2012).

Another limitation was SRDS can only specify whether a person reported high or low delinquent tendencies. It did not specify or give information about the type of most prevalent delinquent tendencies, which could identify the inclination of an individual towards any certain type of delinquent acts. By identifying delinquent tendencies, it could be possible to predict and control the likelihood of individual to commit certain type of crime in the future. Thus, identification of delinquent's inclination towards specific crime or deviant acts would be useful and productive information for handling crime both at initial or later stage.

Different studies reported that juveniles delinquents commit different types of crimes which include murder, rape, stealing, drugs related and land dispute offenses (Javed, Azhar, Anwar, & Sohail, 2012; Shamim, Batool, Zafar, & Hashmi, 2009).This difference in the nature of crimes committed might exhibit an individual's inclination towards specific types of delinquent tendencies/acts. Information provided by SRDS, thus, can be enhanced by exploring its factor structure among delinquents and developing factors which could specify certain types of delinquent tendencies reflecting inclination of an individual towards certain group of deviant acts. So, it is assumed that separate dimensions of delinquency would help in gaining detailed and in depth view of juvenile delinquency phenomenon.

Convergent Validity

Shaw, Giliom, and Giovannelli (2000) explained aggressive behavior as a behavior aimed towards other person or object in the form of an act with an underlined intention of hurting and frightening others. Aggression itself is a form of deviance exhibited in many overt behaviors, but physical and verbal aspect of aggression is logically

seemed to be very important with respect to delinquency, as it is observed as a main cause of many fights which lead to uncertain circumstances resulting in murder or rape, etc. Shahzad and Yasmin (2015) found that delinquents in Pakistan are more aggressive, deviant, and impulsive with poor self-control. Study by Mahmood and Cheema (2004) showed that 24% of the crime by juvenile delinquents is due to revenge and 19% is due to land dispute, both the crimes are related to aggressive handling of the situation. Thus, aggression is positively linked to delinquency that can be used to establish convergent validity of SRDS.

Not only aggressive behavior, but also immaturity plays an important role in situation handling. Studies have shown that immaturity is positively related to deviant and delinquent behaviors (Dawood, Samuel, & Ehsan, 2011). Lie, according to Eysenck and Eysenck (1976), can be considered in two ways. First, when a respondent, claimed the rarely performed actions as a set of routine behavior, which are performed habitually or on the other side, is when the respondent denied to accept frequently performed undesirable actions in routine life. According to Flensborg-Madsen, Revsbech, Sorensen, and Mortensen (2014), this attribute also depict lack of self-insight or immaturity. This lack of self-insight is positively related to delinquency (Amrita & Tilottama, 2012; Khan, 2014).

Discriminant Validity

Studies have shown that positive orientation is inversely related to deviant and delinquent acts (Park, 2004; Valois et al., 2001). Positive orientation is basically a positive approach towards life, oneself, and future. According to Caprara, Alessandri, and Barbaranelli (2010), faith and trust on future is a product of positive thinking and hopeful perspective towards life experiences. Such aspects are often lacking in delinquents (Siegel & Welsh, 2014). Similarly, prosocial behavior is related to a person's capacity to willfully perform those actions which are aimed to help, and benefit others (Eisenberg et al., 2010). Pro-social behaviors include behavioral dimensions like care, share, help, and emphatic feelings (Caprara, Steca, Zelli, & Capanna, 2005). Thus, it is negatively correlated with delinquent tendencies and deviant acts (Baldry & Farrington, 2000; Kokko, Tremblay, Lacourse, Nagin, & Vitaro, 2006).

Construct validation of Revised-SRDS (R-SRDS) in the present study was done by comparing it with constructs like physical and verbal aggression, emotional immaturity and lie scale to show

convergent validity. Discriminant validity of R-SRDS was established by comparing the measure with unrelated constructs like positive orientation and prosocial behavior.

Objectives of the Present Study

1. To explore the factor structure of SRDS and to validate the patterns/types of delinquent tendencies among juvenile delinquents and students.
2. To compare juvenile delinquents and students on R-SRDS.
3. To establish the convergent and divergent validity of R-SRDS.
4. To explore the group difference between crimes committed and established delinquent tendencies among juvenile delinquents.

Method

Participants

The sample of the present study included 508 respondents comprised of juvenile delinquents (n = 232) and students (n = 276). Data from juvenile delinquents were taken from BIJJ Bahawalpur (n = 87) and Faisalabad (n = 145). Total sample of juvenile delinquents included under trial (n = 160) and convicted (n = 72) with age range of 12 years to 18 years (M = 16.82, SD = 2.04) and family monthly income ranged from 500/- PKR to 1200000/- PKR. Data were collected from all the juvenile delinquents present in these institutions during the time of data collection except from those suffering from any mental and physical illness. Information from comparative sample of students was also collected from the same areas on the basis of male gender, age range, and family monthly income. There are no separate female BIJJ in Pakistan, therefore, no female participant (neither in juveniles' nor in students' sample) was included in the study. Data from 276 students was taken from the government schools of Bahawalpur (n = 100) and Faisalabad (n = 176).

Instruments

Urdu versions of all scales were used in the present study due to low literacy rate among juvenile delinquents (Abrar, Baloch, & Ghouri, 2010; Zarsanga, Khan, & Zia, 2013). For this purpose, scales for measuring physical and verbal aggression, prosocial behavior, and

positive orientation were translated into Urdu language (Ishfaq, 2014). Factor structure for all scales was confirmed to ensure construct validity of the scales before any further analysis.

Self-Reported Delinquency Scale (SRDS). It was developed by Naqvi and Kamal (2008), SRDS contains 27 positive statements regarding different delinquents acts like stealing, drugs, sex, lie, violence, gambling, police encounter and disobedience. Response format is a 5 point Likert type scale which measures the frequency of committing delinquent acts where 0 = *never,* 1 = *once,* 2 = 2-5 *times,* 3 = *5-10 times*, and 4 = *more than 10* times. Possible scoring range is 0- 108 where high score represents high delinquency. Alpha reliability of SRDS is reported to be .92 (Naqvi & Kamal, 2008, 2013).

Physical and Verbal Aggression Scale (PVA). Short version of Physical and Verbal Aggression Scale (PVA) was developed by Caprara and Pastorelli (1993). It is comprised of 9 items about aggressive physical and verbal acts like kicking and saying bad things. Response format of 5 point Likert type scale was used ranging from 1 = *never* and 5 = *always*. Possible score range is 9-45. Alpha reliability of PVA is reported as .80. Due to the illiterate sample of the present study, the scale was translated from English to Urdu before its administration (Ishfaq, 2014).

Lie Scale-Eysenck Personality Questionnaire (Lie-EPQ). Translated version of Lie scale from Eysenck Personality Questionnaire (Naqvi & Kamal, 2010) was used in the present study which was originally developed (Eysenck & Eysenck, 1976) to measure dissimilation of information. It consisted of 20 items with alpha reliability of the scale reported to be .68 and was incorporated in the Eysenck Personality Questionnaire (EPQ). It also includes 8 reversed scored items. On the basis of confirmatory factor analysis conducted in the present study, 3 items i.e. items no. 20, 69, and 73 were deleted from the lie subscale of EPQ. Response format is to respond in either *yes* or *no*. Score ranged from 17 to 34 and high scores represent more dissimilation.

Prosocial Behavior Scale (PBS). Prosocial Behavior Scale was developed by Caprara et al., (2005). It consisted of 16 items to measure behaviors like sharing, caring, and helping, etc. Five point Likert type scale was the response format ranged from 1= *never* to 5 = *always* with possible score range 16-80. Cronbach's alpha for PBS is reported as .91 (Caprara et al., 2005). High scores on PBS reflects higher prosociality. In the present study, the scale was translated from English to Urdu before its administration (Ishfaq, 2014).

Positive Orientation Scale (P-Scale). Positive orientation scale (Caprara et al., 2012) was comprised of 8 statements about self-esteem, optimism, and life satisfaction. Response format is 5 point Likert scale ranged from 1 = *strongly disagree* to 5 = *strongly agree*. Item 4 is reverse scored item. Mean score on these eight items reflect total score of an individual on positivity. Cronbach's alpha for the P-scale is .75 (Caprara et al., 2012). In the present study, the scale was translated from English to Urdu before its administration (Ishfaq, 2014).

Procedure

Permission for data collection was taken from the assigned authorities that is superintendents of BIJJ Bahawalpur and BIJJ Faisalabad, and District Education Officers (DEO) for government schools of respective cities. Administration of the measures was done in both survey and interview format (in case of juvenile delinquents) depending upon participant's level of education. In the beginning, brief introduction of the researcher and purpose of research were explained to the participants. They were informed that their information would be kept confidential and would not be shared with the authorities in any case. They were also allowed to use form ID number instead of their original names. They were informed that the provided information would only be used for research purpose and had nothing to do with their legal proceedings. It was also ensured that participants had willful participation and they were allowed to leave the study whenever they wanted. After their informed consent, detailed instructions were given to them about how to fill the questionnaire appropriately. For example, main instruction included that "no answer is right or wrong, kindly provide the answer which immediately comes to your mind after considering the question".

Results

In order to explore factor structure and develop different patterns/type of delinquent tendencies, Statistical Package for Social Sciences (SPSS) version 20 was used to perform Exploratory Factor Analysis (EFA). Total sample was used to conduct EFA, as it is reported that adolescents with normal growth pattern usually exhibit minor delinquent behaviors like teasing others or disobedience (Santrock, 2013), whereas on the other hand serious offenders commit crimes like rape or theft (Thornberry & Krohn, 2000). So, total sample

was used to cover diverse range of different deviant acts and in order to utilize and retain maximum number of items. KMO and Bartlett's test of sphericity was calculated by using SPSS in order to check sample adequacy for EFA. Corrected item-to-total correlations were calculated in order to check whether all items are strongly contributing to the composite scores of the scale. Inter-scale correlations were calculated in order to establish convergent and divergent validities of R-SRDS. Independent sample *t*-test was calculated to measure group difference among delinquents and nondelinquents. R-SRDS measured delinquency as a multi-faceted construct so, number of dependent variables increase. *MANOVA* is a multivariate test and is designed for analyzing several dependent variables simultaneously when number of independent variables is more than two (Field, 2009). So, *MANOVA* was calculated in order to identify group difference among delinquents on the basis of different crimes committed and delinquent tendencies.

Before doing EFA, a few prerequisites were checked in order to select sample adequacy and method of rotation for performing EFA. KMO and Bartlett test of sphericity was calculated by using SPSS in order to check adequacy of sample. Results showed that significant value of KMO is .93 along with Bartlett test of sphericity $\chi^2(351) = 5029.52$. Thus, sample size is adequate and highly desirable for EFA (Field, 2009; Hutcheson & Sofroniou, 1999).

In order to select type of rotation, item-to-total correlation and inter-item correlations of SRDS were calculated. Findings of item total correlation showed that all items strongly contribute in the measurement of delinquent tendencies, as value of *r* ranged from .37 to .61. Thus, all items were retained for further analysis. Inter item correlation showed that all items are significantly correlated ($p \leq .01$) with each other, with values ranged from .12 to .54. The purpose of calculating these inter items correlations was to decide which rotation method is suitable for conducting EFA. Finding supported the use of oblique rotation with maximum likelihood extraction method (Matsunaga, 2010).Type of oblique rotation was decided on the basis of sample size. Number of items in SRDS was 27, whereas sample size for EFA was 508, promax oblique rotation was used for conducting EFA.

Table 1

Exploratory Factor Analysis of Self-Reported Delinquency Scale (SRDS) with Promax Rotation (N = 508)

Items	RTDT	SXRDT	SDT	PEDT	DRDT	ASDT
	1	2	3	4	5	6
d3	**.61**	.09	-.09	.01	.08	-.04
d7	**.61**	-.05	.04	.12	.02	-.03
d12	**.60**	-.08	.15	.10	-.19	.08
d1	**.59**	-.11	.03	-.19	.04	.12
d4	**.41**	-.05	-.06	.02	.05	.07
d6	**.36**	.08	-.01	.05	.28	.00
d11	**.32**	.09	.07	.16	.07	-.04
d20	**.30**	.12	.08	-.16	.12	.14
d15	-.15	**.94**	.05	-.12	-.03	.07
d18	-.10	**.54**	-.01	.41	.00	-.14
d16	.16	**.50**	.09	-.07	-.06	.13
d5	.06	**.45**	-.07	.05	.18	-.02
d13	.21	**.30**	.20	.13	-.08	-.06
d19	.00	-.01	**.80**	.02	.01	.00
d17	-.12	.13	**.66**	-.06	.02	.20
d10	.31	.07	**.52**	-.03	.00	-.24
d9	.00	-.12	**.48**	.08	**.26**	.06
d25	-.02	-.11	.02	**.81**	.02	.00
d14	-.10	.13	.00	**.55**	.13	.10
d21	.19	.27	-.12	**.32**	-.06	.14
d8	-.09	-.05	.19	.05	**.78**	.03
d2	.21	.05	-.12	.02	**.68**	.00
d26	.03	-.04	-.04	.10	.09	**.63**
d22	.18	.20	-.02	-.23	.05	**.42**
d27	-.08	.09	.07	.27	-.03	**.40**
d23	.15	-.05	.13	.18	-.17	**.35**
d24	.22	-.07	-.02	.26	.02	**.28**

Note. RTDT = Risk Taking Delinquent Tendency; SRTD = Sex Related Delinquent Tendency; SDT = Stealing related Delinquent Tendency; PEDT = Police encountering Delinquent Tendency; DRDT = Drugs related Delinquent Tendency; ASDT = Attention Seeking Delinquent Tendency.

Table 1 presents six-factor solution for SRDS which is based on the criteria of Eigen value greater than 1 and retain items on the basis of factor loadings greater than .25. This criteria of retaining items is based on the guidelines of Field (2009) according to which for sample size ($N = 600$) acceptable factor loading is .21, which is .30 for sample of 300 respondents. So, .25 was considered as criteria of retaining an item. Another criterion is face validity of the items with each other and the concept they are measuring. All grouped items do have face validity with respect to its factors except for item no. 9 which was

statistically grouped with the stealing related delinquent tendency (λ = .48). Content of the item, on the other hand, is related to buying and selling of drugs whereas loading to that item on drugs related delinquent tendency is. 26 which is also within the range of our set criteria. So, on the basis of face validity, item no. 9 is grouped in drugs related delinquent tendency. Item no. 24 is also retained on the basis of its face validity and relevancy of its content to overall conceptual understanding of the construct. Its cross loadings on other factors is ignored and left for future studies to conduct confirmatory factor analysis on this scale. Results of EFA shows that six factors solution accounts for 44.87% of the variance in the construct. These factors were further named on the basis of their content and opinion of five subject matter experts, as Risk Taking Delinquent Tendency (RTDT), Sex Related Delinquent Tendency (SRDT), Stealing Related Delinquent Tendency (SDT), Police Encountering Delinquent Tendency (PEDT), Drugs Related Delinquent Tendency (DRDT), and Attention Seeking Delinquent Tendency (ASDT). Each factor contributed 32.28%, 3.29%, 2.83%, 2.27%, 2.34%, and 1.86%, respectively.

Six-factors have emerged according to which inclination towards threatening; selling home commodities, wandering around and pleasure seeking deviance was grouped together under RTDT which is measured by the composite scores of item no. 3, 7, 12, 1, 4, 6, 11, and 20. Involvement is behaviors like harassment, homosexual or heterosexual activities and watching pornography is group together as SRDT which is measured by the composite scores of item no. 15, 18, 16, 5, and 13. SDT measured by composite score on item no. 19, 17, and 10 is related to the exhibition of behaviors like stealing things from public or any specific place or person. Law breaking behaviors which involve direct or indirect encounter with police come under the category of PEDT which is measured by composite score of item no. 25, 14, and 21. DRDT measured by composite score on item no. 8, 2, and 9, included involvement either in the usage of drugs or its business. ASDT included behavior exhibited to gain attention of the people which includes damaging the property, hurting oneself and exhibit behavior just to disturb others instead of hurting and is measured by the composite score on the item no. 26, 22, 27, 23, and 24.

Table 2 presents evidence for the construct validity of the R-SRDS. Findings shows that as expected, all subtypes of delinquent tendency like risk taking, sex related, stealing related, police encountering, drugs related and attention seeking delinquent tendencies are positively related to constructs like physical and verbal

aggression and lying whereas they are negatively related to positive concepts like positive orientation and prosocial behavior. All factors of R-SRDS have reliability ranged from .78 - .71 and are positively related to each other at significant level ($p < .01$) contributing to the construct validity of the instrument.

Table 2

Convergent and Discriminant Validity of R-SRDS (N = 508)

		1	2	3	4	5	6	7	8	9	10
1	RTDT	-	.65**	.57**	.61**	.61**	.62**	.64**	-.19**	-.26**	.49**
2	SXRDT		-	.57**	.62**	.50**	.58**	.51**	-.21**	-.22**	.49**
3	SDT			-	.48**	.49**	.53**	.43**	-.27**	-.21**	.38**
4	PEDT				-	.54**	.62**	.51**	-.24**	-.17**	.34**
5	DRDT					-	.53**	.53**	-.18**	-.18**	.35**
6	ASDT						-	.52**	-.30**	-.22**	.42**
7	PVA							-	-.23**	-.27**	.50**
8	PSB								-	-.36**	-.35**
9	PO									-	-.24**
10	Lie										-
	No. of items	8	5	3	3	3	5	9	16	8	17
	α	.77	.78	.73	.71	.73	.71	.86	.89	.76	.77
	M	5.39	3.47	1.15	1.67	1.55	2.38	15.26	60.46	4.09	21.94
	SD	5.78	4.43	2.25	2.45	2.71	3.36	6.50	12.32	0.74	3.46

Note. RTDT = Risk Taking Delinquent Tendency; SXRDT= Sex related Delinquent Tendency; SDT = Stealing related Delinquent Tendency; PEDT= Police Encountering Delinquent Tendency, DRDT = Drugs related Delinquent Tendency; ASDT = Attention Seeking Delinquent Tendency; PVA = Physical and Verbal Aggression; PSB = Pro-social Behavior; PO= Positive Orientation.

**$p < .01$.

Findings of the Table 3 showed that there is a significant difference between delinquents and students. Juvenile delinquents reported to have more delinquent tendencies as compared to students which shows that R-SRDS is a good measure to distinguish between juvenile delinquents and students. Value of *Cohen's d* show nearly medium (.40) to large effect size (Lakens, 2013). *SD* in both samples is more than mean, showing the skewness of data which is considered as common finding in various researches conducted on adolescent population measuring delinquent activities (Moffitt, 1990; Whitney, Renner, & Herrenkohl, 2010).

Table 3

Differences Between Delinquents and Students on the Basis of Types of Delinquent Tendencies (N = 508)

Variable	Delinquents (n = 232)		Students (n = 276)			95% CI		*Cohen's d*
	M	*SD*	*M*	*SD*	*t(df)*	*LL*	*UL*	
RTDT	7.22	6.61	3.84	4.43	6.64(392)*	2.38	4.38	0.40
SXRDT	4.58	4.78	2.53	3.87	5.22(443)**	1.27	2.81	0.47
SDT	1.83	2.87	.57	1.29	6.15(309)*	0.85	1.66	1.04
PEDT	2.70	2.78	.80	1.70	9.04(369)*	1.48	2.31	0.82
DRDT	2.63	3.28	.64	1.63	8.42(325)*	1.53	2.46	0.76
ASDT	3.42	4.06	1.50	2.31	6.38(352)*	1.33	2.51	0.58

Note. CI = Confidence Interval; LL= Lower Limit; UL= Upper Limit; RTDT= Risk Taking Delinquent Tendency; SXRDT = Sex related Delinquent Tendency; SDT = Stealing related Delinquent Tendency; PEDT = Police Encountering Delinquent Tendency; DRDT = Drugs related Delinquent Tendency; ASDT = Attention Seeking Delinquent Tendency.

*p <.05.**p < .01.

In order to explore the group difference between crimes committed with respect to different delinquent tendencies a one-way multivariate analysis of variance (*MANOVA*) was conducted assuming that there would be one or more mean differences between crime committed and R-SRDS test scores. A statistically significant *MANOVA* effect was obtained, Roy's largest root Θ =.08, $F(6,220)$ = 2.96, p <.01. The multivariate effect size was estimated at .07, which infers 7% of the variance in the delinquent tendencies is accounted for, by nature of crime committed. A series of one-way *ANOVA*'s on each of the six dependent variables is conducted as a follow-up test to the *MANOVA* presented in Table 4.

Table 4 represents one-way ANOVA's on each of the six dependent variables as a follow-up tests to the MANOVA to show the difference between different crimes committed on the basis of specific delinquent tendencies. Separate univariate ANOVAs on the outcome variables also confirm significant difference between groups on risk related delinquent tendency $F(5, 221) = 2.33$, $p < .05$, and drugs related delinquent tendency $F(5, 221) = 3.35$, $p < .01$. Tukey's post hoc shows that juvenile delinquents who have committed crime of stealing shows more risk taking delinquent tendency as compared to those who are involved in kidnapping as *Mean Difference (i-j)* = 6.05,

p = .022 and post-hoc for drug relation delinquent tendency is reported in Table 5.

Table 4

Differences in Delinquent Tendencies with Respect to Different Crimes Committed by Juvenile Delinquents (N = 227)

	Nature of Crime							
Variables	Stealing (n=30)	Murder (n=105)	Rape (n=38)	Fighting (n=22)	Kidnap (n=18)	Narcotics (n=14)	F	η^2
RTDT	9.33 (8.47)	6.66 (5.63)	7.26 (6.21)	7.86 (8.33)	3.28 (3.89)	8.64 (6.71)	2.33*	.05
SXRDT	5.80 (5.82)	4.50 (4.55)	4.05 (4.23)	4.68 (5.51)	2.39 (2.40)	5.21 (4.39)	1.35	.03
SDT	2.90 (3.54)	1.80 (2.67)	1.16 (2.27)	1.95 (3.21)	0.67 (1.33)	2.28 (3.56)	2.04	.04
PEDT	3.43 (3.15)	2.62 (2.72)	2.37 (2.36)	3.09 (3.38)	1.44 (2.00)	3.36 (2.87)	1.54	.03
DRDT	3.60 (3.81)	2.41 (2.99)	2.37 (3.19)	2.04 (3.27)	1.33 (2.22)	5.28 (4.21)	3.35**	.07
ASDT	4.60 (4.93)	3.28 (3.91)	3.63 (4.32)	2.32 (3.59)	1.89 (1.87)	4.71 (4.86)	1.68	.04

Note. RTDT = Risk Taking Delinquent Tendency; SXRDT = Sex related Delinquent Tendency; SDT = Stealing related Delinquent Tendency; PEDT= Police Encountering Delinquent Tendency; DRDT= Drugs related Delinquent Tendency; ASDT = Attention Seeking Delinquent Tendency.
*p <.05.**p < .01.

Table 5

Post-Hoc for Mean Differences in Drug Related Delinquent Tendency Across Different Crimes Committed by Delinquents (*N = 227)*

Dependent Variable	(I) Nature of Crime	(J) Nature of Crime	Mean Difference (I-J)	SE	p	95% CI	
						LL	*UL*
Drugs related Delinquent Tendency (DRDT)	Narcotics	Stealing	1.68	1.04	.58	-4.67	1.30
		Murder	2.88*	0.91	.02	-5.50	-.25
		Rape	2.92*	1.00	.05	-5.80	-.03
		Fighting	3.24*	1.10	.04	-6.39	-.09
		Kidnap	3.95**	1.14	.00	-7.24	-.67

Note. CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; SE = Standard Error; Missing = 5.

Tukey's post-hoc results in Table 5 show that juvenile delinquents who are involved in the crime related to narcotic showed more drugs related delinquent tendency as compared to all other groups.

Discussion

Delinquent tendencies mean inclination towards different deviant acts and these deviant acts have a diverse range which starts from minor behaviors like disobedience to major crimes like rape. Purpose of the present study was to explore factor structure and specify different pattern/ types of delinquent behavior in order to explore the construct of delinquency in detail. Reliability and validity of developed factors was also established in order to make R-SRDS appropriate not only to differentiate between juvenile delinquents and students, but also between different groups of crime committed by juvenile delinquents. In order to do EFA, combined sample of juvenile delinquents and students was used. It is inferred that student sample might inclined towards reporting minor deviant acts like disobedience or noncompliance, as compared to stealing and theft. On the other hand, juvenile delinquents might show inclination towards major offences (Thornberry & Krohn, 2000). SRDS was originally developed on laborers (Naqvi & Kamal, 2013) so, to in order to measure the whole range of delinquent behaviors and to have a complete picture of delinquent tendencies prevailing in Pakistan merging of these two samples into one total sample was preferred and used in EFA.

Before doing EFA few procedures were carried out to check internal consistency of the scale and adequacy of sample size. Findings showed that all items contribute strongly in measuring the concept of delinquency in present sample, as they showed significant corrected total item correlation and all items were highly correlated with each other, which means all items are highly interrelated. Therefore, maximum likelihood extraction method along with oblique method of rotation was used. Sample size used for EFA was approximately 18 times greater than the number of items in the scale, sopromaxrotation was preferred over oblique rotation. One of the purpose of using oblique rotation is that it leads to dependent factors, which is important as in juvenile delinquency deviant acts co-vary in many cases and situation. Skewness of data was reported to be 1.63 on SRDS with $M = 15.60$ and $SD = 17.08$, which represents that data was not evenly distributed but this is often the case with measuring delinquent activities among adolescents (Moffitt, 1990; Whitney, Renner, & Herrenkohl, 2010) whereas as per Field (2013) central limit

theorem suggests that at large sample size (508 against 27 items) shape of data can be taken as normal. KMO and Bartlett's test approved the sample adequacy for EFA. Results of EFA showed that on the basis of Eigen value greater than 1, six factors were extracted by SPSS, for a double check all other factor solutions were also checked. Other factor solutions have issues like less variance explained, illogical grouping of items (lack of face validity), less informative and increased item deletion. Retaining maximum number of items was one of the main concerns in the present study. Six factor solution explained 44.87% of the total variance.

Riopka, Coupland, and Olver (2015) used a list of self-reported antisocial behaviors in a study which were organized into two groups highlighting serious but infrequent antisocial behaviors; and generally less but more frequent serious rule violations. Thus, delinquency is often considered in certain domains for capturing better picture of the phenomenon. An Australian Self-report Delinquency Scale (ASDS) was revised and factors were emerged in revision of the scale (Curico, Mak, & Knott, 2015). Those eight factors were related to Theft, Cheat, Driving/Vehicle, Disturb, Drugs, Fight, Alcohol, and Media. R-SRDS have related factors like SDT, DRDT, RTDT, and ASDT which covers issues like theft, drugs, fight, and damaging property. Sex is not included as deviant act in ASDS, but in Pakistani culture acts like watching porn or teasing females is not encouraged and are considered as atypical behavior. Encountering with police is again considered as a social taboo in Pakistani culture. Alcohol is not considered as a separate category than drugs as in Pakistan it is just like another form of drug abuse. R-SRDS is about inclination of an individual towards certain deviant acts so, these behaviors are more related to overt and face-to-face or practical life encounters due to which cyber related virtual behaviors were not included or is not merged with the overt deviant behaviors exhibited in real life. Response format in ASDS was yes/no that is measuring presence of a deviant act which is a limitation as intensity is not measured. It is important to look into the frequency of the deviant behavior along with its presence to have a complete picture of the phenomenon. R-SRDS counters this limitation.

Convergent and divergent validity of these subscales was established with scales of physical and verbal aggression, subscale lie-EPQ, prosocial behavior, and positive orientation. The positive association between R-SRDS and lying along with physical and verbal aggression is consistent with the studies of Pakistan that delinquency is positively related to these negative constructs (Khan, 2014; Rafail & Haque, 1999). Negative relation of positive orientation and prosocial behavior depicts the inverse relationship of all types of

delinquency with these constructs, which is also consistent with the findings of researches (Khusrhid & Rehman, 2006; Sattar & Rafique, 2011; Yasin & Iqbal, 2013). In a study (Verschuere et al., 2012), which was conducted on the juvenile delinquents, scores measured through Self-Reported Delinquency (SRD) Scale was divided into violent delinquency, selling and using alcohol/drugs. These two domains are consistent with major factors of R-SRDS that is, RT, ASDT, and DRDT. Findings of the study showed that juvenile delinquents have high self-reported delinquency, low empathy, high impulsivity, high aggression level, and high alcohol/drug use which is consistent with the findings of the current study. Hence, it can be said that R-SRDS do have adequate reliability, construct, and face validity along with content validity. Results also showed that all these tendencies are inter-correlated, which explains the actual practice of filing multiple cases on an individual. Behaviors like delinquency, sexual intercourse or pregnancies, alcohol, and drug use are often co-occurring (Huizinga, Loeber, & Thornberry, 1993), but still it was assumed that committing a crime do involve some particular inclination towards that act.

In order to test differentiating ability of R-SRDS, group difference between juvenile delinquents and students was calculated through independent sample *t*-test. Findings showed that delinquents score high on all these types of delinquent tendencies, which is considered as a way to determine goodness of measure in Juvenile Delinquency Inventory (Rafail & Haque, 1999). Leenarts and colleagues (2017) used self-reported delinquency questionnaire to assess three forms of deviant behavior including vandalism, property offences, and violent offences. They merge the categories of vandalism and property offences to form a group of nonviolent offences. Findings of the study showed that high risk sample for juvenile delinquency reported more involvement in delinquent behaviors including both violent and nonviolent offences as compared to general adolescent's population. Similarly, according to Tomita (2013), juvenile delinquents exhibit more verbal and physical aggression, hostility, and impulsivity as compared to nondelinquents.

To further explore delinquent tendencies in the sample of juvenile delinquents, difference between different delinquent tendencies and crime committed was analyzed through *MANOVA.* Results of *MANOVA* showed that risk taking delinquency was high in juvenile delinquents who have committed crimes like theft and stealing which is consistent with the findings of Mishra, Hing, and Lalumiere (2015) according to which, inequality in terms of unequal access to health care, education, wealth, and other opportunities, is prominent

motivator for risk taking. People who become victim of inequality are acutely sensitive to it. Constant exposure to situations in which such inequalities are highlighted lead to increased chance of risk taking. Perceived inequalities are linked to negative moods, physical stress, frustration, and poor mental health. Victim perceive risk taking as adaptive response to inequality, as it could be the only option to attain something which otherwise might not be possible. So, RTDT were high among juvenile delinquents who have committed crimes like theft or stealing in order, to achieve what they want in quick way possible. Similarly, DRDT was high among juvenile delinquents who were involved in crimes like use/abuse, purchase, sell or any other activity related to drugs. This finding showed that by specifying the prominent delinquent tendency, it is possible to predict and thus control the type of crime one is inclined to.

Thus, findings of the study showed that development of patterns and types of delinquent tendencies open horizons for the in depth study of juvenile delinquency in Pakistan. This will contribute in more elaborative studies on delinquency with respect to its prevalence, etiology, and outcomes along with a direction from more general concept of delinquency to specific type of delinquent tendencies. Limitations of the present study are that as data were collected through jail authorities so, responses may be get biased which was even proved with the high scores on lie scale. This biasness might be due to the presence of the police officer during data collection, but this limitation was inevitable, as it was not allowed to enter inside these institutions without proper safety protocols. It was in safety protocols of BIJJ that no outsider would be allowed to enter BIJJ unaccompanied or left alone inside the premises. So, data collection in the presence of police officers was unavoidable. Findings of this study is gender and area (in terms of province) specific as it is conducted on the juvenile delinquents retained in BIJJ, which are only for boys and are located in two cities; Bahawalpur and Faisalabad. So, more studies are needed to further confirm the same structure of the scale on different sample on the basis of gender or area.

Conclusion

It can be concluded that delinquency in Pakistan is a multidimensional construct with six types including risk taking, sex related, stealing related, police encountering, drugs related, and attention seeking delinquent tendencies. Juvenile delinquents have high risk taking, sex related, stealing related, police encountering, drugs related, and attention seeking delinquent tendencies as

compared to students. Type of delinquent tendencies differs with respect to the crime committed by juvenile delinquents. Hence, modification in the SRDS have enhanced the importance of this scale as now it provide more information than before and it is for the first time in Pakistan that a scale is modified to measure different delinquent tendencies in both juvenile delinquents and student samples which open gates for further in depth study on delinquency.

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